

FILE 'HCME' ENTERED AT 10:59:40 ON 31 JAN 2003

=> file agricola biosis caplus caplus

=> s npr1 or nim1

L1 469 NPR1 OR NIM1

=> duplicate remove L1

L2 247 DUPLICATE REMOVE L1 (222 DUPLICATES REMOVED)

=> d ti 1-50

L2 ANSWER 1 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI TA Repeat Variation, **Npr1** Expression, and Blood Pressure

L2 ANSWER 2 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Natriuretic peptide system in fetal heart and circulation.

L2 ANSWER 3 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Analysis of the roles of salicylic acid and **nim1/npr1** in arabidopsis thaliana pathogen defense

L2 ANSWER 4 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Molecular and genetic analysis of **nim1**-dependent and independent induced defense response pathways in arabidopsis thaliana

L2 ANSWER 5 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Human **NIM1** kinase.

L2 ANSWER 6 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Collections of transgenic animal lines in which a subset of cells characterized by expression of an endogenous "characterizing" gene and uses

L2 ANSWER 7 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of human and mouse Rh type B glycoprotein ion transporter and their expression in mammalian cells

L2 ANSWER 8 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Promoters isolated from Arabidopsis thaliana defense-associated genes and uses in expression of transgene in plant cells

L2 ANSWER 9 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Rational Design of Artificial Zinc-Finger Proteins Using a Nondegenerate Recognition Code Table

L2 ANSWER 10 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 1
TI A gain-of-function mutation in an Arabidopsis Toll Interleukin1 Receptor Nucleotide Binding Site-Leucine-Rich Repeat type R gene triggers defense responses and results in enhanced disease resistance.

L2 ANSWER 11 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 2
TI Cell cycle-dependent assembly of a Gin4-septin complex.

L2 ANSWER 12 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Isolation and characterization of broad-spectrum disease-resistant Arabidopsis mutants

L2 ANSWER 13 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 3
TI Arabidopsis SON1 is an F-box protein that regulates a novel induced defense response independent of both salicylic acid and systemic acquired

resistance.

- L2 ANSWER 14 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 4
TI In vivo interaction between **NPR1** and transcription factor TGA2 leads to salicylic acid-mediated gene activation in Arabidopsis.
- L2 ANSWER 15 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 5
TI Regulation of the MPG1 hydrophobin gene in the rice blast fungus *Magnaporthe grisea*.
- L2 ANSWER 16 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Preexisting systemic acquired resistance suppresses hypersensitive response-associated cell death in Arabidopsis *hrl1* mutant.
- L2 ANSWER 17 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Targets of AtWRKY6 regulation during plant senescence and pathogen defense.
- L2 ANSWER 18 OF 247 AGRICOLA DUPLICATE 8
TI Benzothiadiazole induced priming for potentiated responses to pathogen infection, wounding, and infiltration of water into leaves requires the **NPR1/NIM1** gene in Arabidopsis.
- L2 ANSWER 19 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Characterization of early, chitin-induced gene expression in Arabidopsis
- L2 ANSWER 20 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Structure and genomic sequence analysis of murine guanylyl cyclase/atrial natriuretic peptide receptor-A gene.
- L2 ANSWER 21 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Isolation of a SIR-like gene, SIR-T8, that is overexpressed in thyroid carcinoma cell lines and tissues.
- L2 ANSWER 22 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Genetic disruption of guanylyl cyclase/natriuretic peptide receptor-A potentiates the expression of nitric oxide synthase in kidney.
- L2 ANSWER 23 OF 247 AGRICOLA DUPLICATE 9
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- L2 ANSWER 24 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Ventricular expression of natriuretic peptides in **Npr1**^{-/-} mice with cardiac hypertrophy and fibrosis.
- L2 ANSWER 25 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Potentiation of developmentally regulated plant defense response by AtWRKY18, a pathogen-induced Arabidopsis transcription factor.
- L2 ANSWER 26 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Evidence for regulation of resistance in Arabidopsis to Egyptian cotton worm by salicylic and jasmonic acid signaling pathways.
- L2 ANSWER 27 OF 247 AGRICOLA DUPLICATE 13
TI Characterization of a novel, defense-related Arabidopsis mutant, *cir1*, isolated by luciferase imaging.

- L2 ANSWER 28 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Signals involved in Arabidopsis resistance to *Trichoplusia ni* caterpillars induced by virulent and avirulent strains of the phytopathogen *Pseudomonas syringae*.
- L2 ANSWER 29 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Upregulation of distal tubular renin expression in natriuretic peptide receptor-A deficient mutant mice.
- L2 ANSWER 30 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Knockout of Arabidopsis ACCELERATED-CELL-DEATH11 encoding a sphingosine transfer protein causes activation of programmed cell death and defense.
- L2 ANSWER 31 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 16
 TI Age-related resistance in Arabidopsis is a developmentally regulated defense response to *Pseudomonas syringae*.
- L2 ANSWER 32 OF 247 AGRICOLA DUPLICATE 17
 TI The Arabidopsis *hrl1* mutation reveals novel overlapping roles for salicylic acid, jasmonic acid and ethylene signalling in cell death and defence against pathogens.
- L2 ANSWER 33 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 18
 TI Ozone-induced ethylene production is dependent on salicylic acid, and both salicylic acid and ethylene act in concert to regulate ozone-induced cell death.
- L2 ANSWER 34 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Arabidopsis RPP4 is a member of the RPP5 multigene family of TIR-NB-LRR genes and confers downy mildew resistance through multiple signalling components.
- L2 ANSWER 35 OF 247 AGRICOLA DUPLICATE 20
 TI Tobacco *Rar1*, *EDS1* and **NPRI/NIM1** like genes are required for N-mediated resistance to tobacco mosaic virus.
- L2 ANSWER 36 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Runaway cell death, but not basal disease resistance, in *lsl1* is SA- and **NIM1/NPRI**-dependent.
- L2 ANSWER 37 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Priming in plant-pathogen interactions.
- L2 ANSWER 38 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI The tobacco mosaic virus resistance gene, *N*.
- L2 ANSWER 39 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Over-expression of TGA5, which encodes a bZIP transcription factor that interacts with **NIM1/NPRI**, confers SAR-independent resistance in Arabidopsis thaliana to *Peronospora parasitica*.
- L2 ANSWER 40 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Development of a high-throughput yeast two-hybrid screening system to study protein-protein interactions in plants.
- L2 ANSWER 41 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

- TI Role of salicylic acid, ethylene and jasmonic acid signaling in
ssil-conferred, **NPR1**-independent defense responses.
- L2 ANSWER 42 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Arabidopsis TGA2 mediates **NPR1**-dependent and SA-responsive
activation of transcription.
- L2 ANSWER 43 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 25
TI Genomic structure, organization, and promoter region analysis of murine
guanylyl cyclase/atrial natriuretic peptide receptor-A gene.
- L2 ANSWER 44 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Genomic structure and organization of murine guanylyl cyclase/natriuretic
peptide receptor-A gene.
- L2 ANSWER 45 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Cross-talk between salicylate- and jasmonate-dependent induced defenses in
Arabidopsis
- L2 ANSWER 46 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 26
TI Yeast Npi3/Bro1 is involved in ubiquitin-dependent control of permease
trafficking.
- L2 ANSWER 47 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Analysis of SAR and identification of other pathogen-induced defense
responses in Arabidopsis
- L2 ANSWER 48 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Systemic acquired resistance in Arabidopsis
- L2 ANSWER 49 OF 247 AGRICOLA DUPLICATE 27
TI Chemically induced virus resistance in Arabidopsis thaliana is independent
of pathogenesis-related protein expression and the **NPR1** gene.
- L2 ANSWER 50 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 28
TI The Arabidopsis gain-of-function mutant dll1 spontaneously develops
lesions mimicking cell death associated with disease.

=> d bib abs 3 4

- L2 ANSWER 3 OF 247 CAPLUS COPYRIGHT 2003 ACS
AN 2003:38394 CAPLUS
TI Analysis of the roles of salicylic acid and **nim1/npr1**
in arabidopsis thaliana pathogen defense
AU Rairdan, Gregory James
CS Cornell Univ., Ithaca, NY, USA
SO (2002) 169 pp. Avail.: UMI, Order No. DA3050476
From: Diss. Abstr. Int., B 2002, 63(4), 1629
LI Dissertation
LA English
AB Unavailable
- L2 ANSWER 4 OF 247 CAPLUS COPYRIGHT 2003 ACS
AN 2003:38393 CAPLUS
TI Molecular and genetic analysis of **nim1**-dependent and independent
induced defense response pathways in arabidopsis thaliana
AU Kim, Han Suk
CS Cornell Univ., Ithaca, NY, USA
SO (2002) 160 pp. Avail.: UMI, Order No. DA3050478
From: Diss. Abstr. Int., B 2002, 63(4), 1627
DT Dissertation

LA English
AB Unavailable

=> d ti 51-75

- L2 ANSWER 51 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 29
TI Targeted disruption of the gene for natriuretic peptide receptor-A worsens hypoxia-induced cardiac hypertrophy.
- L2 ANSWER 52 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Epistasis analysis of dnd1-mediated resistance responses.
- L2 ANSWER 53 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI **NPR1**-independent defense pathway in the Arabidopsis thaliana ssil mutant.
- L2 ANSWER 54 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Two pathways act in an additive rather than obligatorily synergistic fashion to induce systemic acquired resistance and PR gene expression
- L2 ANSWER 55 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Mapping molecular interactions in transgenic plants using protein fragments complementation assays (PCA)
- L2 ANSWER 56 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Haplotypes and genotyping of the human **NPR1** gene encoding natriuretic peptide receptor A
- L2 ANSWER 57 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Cloning, sequence and diagnostic and therapeutic applications of human **NIM1** kinase
- L2 ANSWER 58 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Single nucleotide polymorphisms in human genes
- L2 ANSWER 59 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Homologs of the systemic acquired disease resistance gene **NIM1** of Arabidopsis thaliana from crop plants
- L2 ANSWER 60 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Maize **NPR1**-interacting proteins and cDNAs and transgenic plants with altered levels of **NPR1**-interacting protein
- L2 ANSWER 61 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Enhanced stress tolerance in maize via manipulation of cell cycle regulatory genes
- L2 ANSWER 62 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of a novel Arabidopsis thaliana negative regulator of systemic acquired resistance, **SN11**, discovered through a screen for suppressors of **npr1-1**, and uses thereof in plant disease resistance
- L2 ANSWER 63 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Regulation of systemic acquired resistance by **NPR1** and its partners.
- L2 ANSWER 64 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Ubiquitin is required for sorting to the vacuole of the yeast general amino acid permease, Gap1.
- L2 ANSWER 65 OF 247 AGRICOLA
TI The **Npr1** kinase controls biosynthetics and endocytic sorting of

DUPLICATE 30

the yeast Gap1 permease.

- L2 ANSWER 66 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Transcript expression in *Saccharomyces cerevisiae* at high salinity
- L2 ANSWER 67 OF 247 AGRICOLA
TI A fatty acid desaturase modulates the activation of defense signaling pathways in plants. DUPLICATE 31
- L2 ANSWER 68 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI CAC3 (MSI1) suppression of RAS2G19V is independent of chromatin assembly factor I and mediated by **NPR1**.
- L2 ANSWER 69 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Dynamic localization of the Swi1 regulator Hsl7 during the *Saccharomyces cerevisiae* cell cycle.
- L2 ANSWER 70 OF 247 AGRICOLA
TI Evidence for an important role of WRKY DNA binding proteins in the regulation of **NPR1** gene expression. DUPLICATE 34
- L2 ANSWER 71 OF 247 AGRICOLA
TI Salicylic acid and **NIM1/NPR1**-independent gene induction by incompatible *Peronospora parasitica* in *Arabidopsis*. DUPLICATE 35
- L2 ANSWER 72 OF 247 AGRICOLA
TI Activation of an EDS1-mediated R-gene pathway in the *sncl* mutant leads to constitutive, **NPR1**-independent pathogen resistance. DUPLICATE 36
- L2 ANSWER 73 OF 247 AGRICOLA
TI **NIM1** overexpression in *Arabidopsis* potentiates plant disease resistance and results in enhanced effectiveness of fungicides. DUPLICATE 37
- L2 ANSWER 74 OF 247 AGRICOLA
TI Molecular responses to aphid feeding in *Arabidopsis* in relation to plant defense pathways. DUPLICATE 38
- L2 ANSWER 75 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 39
TI TIP41 interacts with TAP42 and negatively regulates the TOR signaling pathway.

=> d bib abs 73

- L2 ANSWER 73 OF 247 AGRICOLA
AN 2002:1586 AGRICOLA
DN IND23240760
TI **NIM1** overexpression in *Arabidopsis* potentiates plant disease resistance and results in enhanced effectiveness of fungicides. DUPLICATE 37
AJ Friedrich, L.; Lawton, K.; Dietrich, R.; Willits, M.; Cade, R.; Ryals, J.
SD Molecular plant-microbe interactions : MPMI, Sept 2001. Vol. 14, No. 9. p. 1114-1124
Publisher: St. Paul, MN : APS Press, [c1987-
CODEN: MPMIEL; ISSN: 0894 0282
- NTE Includes references
CY Minnesota; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The **NIM1** (for noninducible immunity, also known as **NPR1**) gene is required for the biological and chemical activation of systemic acquired resistance (SAR) in *Arabidopsis*. Overexpression of **NIM1**

in wild-type plants (hereafter referred to as **NIM1** plants or lines) results in varying degrees of resistance to different pathogens. Experiments were performed to address the basis of the enhanced disease resistance responses seen in the **NIM1** plants. The increased resistance observed in the **NIM1** lines correlated with increased **NIM1** protein levels and rapid induction of PR1 gene expression, a marker for SAR induction in Arabidopsis, following pathogen inoculation. Levels of salicylic acid (SA), an endogenous signaling molecule required for SAR induction, were not significantly increased compared with wild-type plants. SA was required for the enhanced resistance in **NIM1** plants, however, suggesting that the effect of **NIM1** overexpression is that plants are more responsive to SA or a SA-dependent signal. This hypothesis is supported by the heightened responsiveness that **NIM1** lines exhibited to the SAR-inducing compound benzo(1,2,3)-thiadiazole-7-carbothioic acid S-methyl ester. Furthermore, the increased efficacy of three fungicides was observed in the **NIM1** plants, suggesting that a combination of transgenic and chemical approaches may lead to effective and durable disease-control strategies.

=> d ti 76-100

- L2 ANSWER 76 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 40
 TI Pressure-independent enhancement of cardiac hypertrophy in natriuretic peptide receptor A-deficient mice.
- L2 ANSWER 77 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 41
 TI Direct visualization of protein interactions in plant cells.
- L2 ANSWER 78 OF 247 AGRICOLA DUPLICATE 42
 TI Identification of a 2,6-dichloroisonicotinic-acid-sensitive protein kinase from tobacco by affinity chromatography on benzothiadiazole-sepharose and NIM-metal chelate adsorbent.
- L2 ANSWER 79 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 43
 TI Genetic disruption of atrial natriuretic peptide receptor-A alters renin and angiotensin II levels.
- L2 ANSWER 80 OF 247 AGRICOLA DUPLICATE 44
 TI A recessive mutation in the Arabidopsis SS12 gene confers SA- and **NPRI**-independent expression of PR genes and resistance against bacterial and oomycete pathogens.
- L2 ANSWER 81 OF 247 AGRICOLA DUPLICATE 45
 TI Trans-dominant suppression of plant TGA factors reveals their negative and positive roles in plant defense responses.
- L2 ANSWER 82 OF 247 AGRICOLA DUPLICATE 46
 TI Resistance to *Pseudomonas syringae* conferred by an Arabidopsis thaliana coronatine-insensitive (coi1) mutation occurs through two distinct mechanisms.
- L2 ANSWER 83 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Augmentation of renal nitric oxide synthase expression in natriuretic peptide receptor-A deficient mice.
- L2 ANSWER 84 OF 247 AGRICOLA DUPLICATE 47
 TI Environmentally sensitive, SA-dependent defense responses in the cpr22 mutant of Arabidopsis.
- L2 ANSWER 85 OF 247 AGRICOLA DUPLICATE 48

- TI Abnormal callose response phenotype and hypersusceptibility to *Peronospora parasitica* in defense-compromised *Arabidopsis nlm1-1* and salicylate hydroxylase-expressing plants.
- L2 ANSWER 86 OF 247 AGRICOLA DUPLICATE 49
TI The *Arabidopsis* downy mildew resistance gene, RPP13-Nd, functions independently of NDR1 and EDS1 and does not require the accumulation of salicylic acid.
- L2 ANSWER 87 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 50
TI Negative regulation of defense responses in plants by a conserved MAPKK kinase.
- L2 ANSWER 88 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 51
TI Novel **NPR1** polymorphic variants and its exclusion as a candidate gene for medullary cystic kidney disease (ADMCKD) type 1.
- L2 ANSWER 89 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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TI Genetic dissection of systemic acquired resistance.
- L2 ANSWER 90 OF 247 AGRICOLA DUPLICATE 53
TI Characterization of an *Arabidopsis*-*Phytophthora* Pathosystem: resistance requires a functional PAD2 gene and is independent of salicylic acid, ethylene and jasmonic acid signalling.
- L2 ANSWER 91 OF 247 AGRICOLA DUPLICATE 54
TI A role for salicylic acid and **NPR1** in regulating cell growth in *Arabidopsis*.
- L2 ANSWER 92 OF 247 AGRICOLA DUPLICATE 55
TI The *Arabidopsis* aberrant growth and death2 mutant shows resistance to *Pseudomonas syringae* and reveals a role for **NPR1** in suppressing hypersensitive cell death.
- L2 ANSWER 93 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A disease resistance pathway in rice similar to the **NPR1**-mediated pathway in *Arabidopsis*.
- L2 ANSWER 94 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Regulation of systemic acquired resistance by **NPR1** and its partners
- L2 ANSWER 95 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Dissection of signaling networks triggering resistance to downy mildew in *Arabidopsis*.
- L2 ANSWER 96 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Regulation of systemic acquired resistance by **NPR1** and its partners.
- L2 ANSWER 97 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Resistance to Turnip crinkle virus: Understanding defense signaling against a viral pathogen of *Arabidopsis*.
- L2 ANSWER 98 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Combining genetics and expression profiling for studies of signaling pathways controlling activation of plant defense responses.
- L2 ANSWER 99 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 56
TI Probenazole induces systemic acquired resistance in *Arabidopsis* with a novel type of action.

L2 ANSWER 100 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Expression of plastidial omega-3 fatty acid desaturase (FAD7) gene in
 Arabidopsis is activated by salicylic acid-dependent but **NPR1**
 -independent pathway.

=> d bib abs 93

L2 ANSWER 93 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 AN 2003:52442 BIOSIS
 DN PREV200300052442
 TI A disease resistance pathway in rice similar to the **NPR1**
 -mediated pathway in Arabidopsis.
 AU Chern, Mawsheng (1); Canlas, Patrick E. (1); Fitzgerald, Heather A. (1);
 Yadav, Ram C. (1); Ronald, Pamela C. (1); Dong, Xinnian
 CS (1) Department of Plant Pathology, University of California Davis, Davis,
 CA, USA: mschern@ucdavis.edu USA
 SO Plant Biology (Rockville), (2001) Vol. 2001, pp. 176-177. print.
 Meeting Info.: Joint Annual Meetings of the American Society of Plant
 Biologists and the Canadian Society of Plant Physiologists Providence,
 Rhode Island, USA July 21-25, 2001 American Society of Plant Biologists
 DT Conference
 LA English

=> d ti 101-150

L2 ANSWER 101 OF 247 AGRICOLA DUPLICATE 57
 TI NIMIN-1, NIMIN-2 and NIMIN-3, members of a novel family of proteins from
 Arabidopsis that interact with **NPR1/NIM1**, a key
 regulator of systemic acquired resistance in plants.

L2 ANSWER 102 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Utilizing the systemic acquired resistance signal transduction pathway to
 enhance plant health

L2 ANSWER 103 OF 247 AGRICOLA DUPLICATE 58
 TI Evidence for a disease resistance pathway in rice similar to the
NPR1-mediated signaling pathway in Arabidopsis.

L2 ANSWER 104 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Regulation of gene expression of pathogenesis-related protein

L2 ANSWER 105 OF 247 AGRICOLA DUPLICATE 59
 TI Rhizobacteria-mediated induced systematic resistance triggering,
 signalling and expression.

L2 ANSWER 106 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Resistance to turnip crinkle virus: Understanding defense signaling
 against a viral pathogen of Arabidopsis.

L2 ANSWER 107 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI A disease resistance pathway in rice similar to the **NPR1**
 -mediated pathway in Arabidopsis.

L2 ANSWER 108 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Regulation of SAR-related gene expression by **NPR1** and its
 Partners.

L2 ANSWER 109 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 60
 TI Method for protecting plants.

- L2 ANSWER 110 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI DNA binding proteins that interact with **NPR1**.
- L2 ANSWER 111 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI Gene encoding a protein involved in the signal transduction cascade leading to systemic acquired resistance in plants.
- L2 ANSWER 112 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Wheat and rice acquired resistance gene **npr1** and protein and transgenic plants with enhanced disease resistance
- L2 ANSWER 113 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Identification of DNA control elements responsive to specific stimuli using genome expression profiles
- L2 ANSWER 114 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Protein and cDNA sequences of corn **NPR1** gene and uses thereof in plant disease control
- L2 ANSWER 115 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Rice proteins that regulate systemic acquired resistance and their cDNAs and transgenic plants with enhanced pathogen resistance
- L2 ANSWER 116 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Homologs of the systemic acquired disease resistance gene **NIM1** of *Arabidopsis thaliana* from crop plants
- L2 ANSWER 117 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Dna binding proteins that interact with **npr1** for therapeutic protection from plant pathogens
- L2 ANSWER 118 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Protein and cDNA sequences of corn, rice, and wheat **NPR1** genes, chimeric **NPR1** genes, and uses thereof in plant disease control
- L2 ANSWER 119 OF 247 AGRICOLA DUPLICATE 61
 TI Nitric oxide and salicylic acid signaling in plant defense.
- L2 ANSWER 120 OF 247 AGRICOLA DUPLICATE 62
 TI Enhancement of induced disease resistance by simultaneous activation of salicylate- and jasmonate-dependent defense pathways in *Arabidopsis thaliana*.
- L2 ANSWER 121 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 63
 TI Tryptophan permease gene TAT2 confers high-pressure growth in *Saccharomyces cerevisiae*.
- L2 ANSWER 122 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Regulation of yeast H⁺-ATPase by protein kinases belonging to a family dedicated to activation of plasma membrane transporters.
- L2 ANSWER 123 OF 247 AGRICOLA DUPLICATE 65
 TI Nuclear localization of **NPR1** is required for activation of PR gene expression.
- L2 ANSWER 124 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
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 TI Roles of salicylic acid, jasmonic acid, and ethylene in cpr-induced resistance in *Arabidopsis*.
- L2 ANSWER 125 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 DUPLICATE 67
 TI Fumonisin B1-induced cell death in *Arabidopsis* protoplasts requires

jasmonate-, ethylene-, and salicylate-dependent signaling pathways.

L2 ANSWER 126 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 68

TI Arabidopsis MAP kinase 4 negatively regulates systemic acquired resistance.

L2 ANSWER 127 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 69

TI Riboflavin induces disease resistance in plants by activating a novel signal transduction pathway.

L2 ANSWER 128 OF 247 AGRICOLA DUPLICATE 70
TI Tobacco TGA factors differ with respect to interaction with **NPR1**, activation potential and DNA-binding properties.

L2 ANSWER 129 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Role of salicylic acid in disease-resistant reaction of plants. Discovery of novel protein groups which transduce signals from salicylic acid

L2 ANSWER 130 OF 247 AGRICOLA DUPLICATE 71
TI Salicylic acid has a role in regulating gene expression during leaf senescence.

L2 ANSWER 131 OF 247 AGRICOLA DUPLICATE 72
TI Resistance of turnip crinkle virus in Arabidopsis is regulated by two host genes and is salicylic acid dependent but **NPR1**, ethylene and jasmonate independent.

L2 ANSWER 132 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 73
TI Multiple pathways regulating fission yeast mitosis upon environmental stresses.

L2 ANSWER 133 OF 247 AGRICOLA DUPLICATE 74
TI Downy mildew (*Peronospora parasitica*) resistance genes in Arabidopsis vary in functional requirements for **NDR1**, **EDS1**, **NPR1** and salicylic acid accumulation.

L2 ANSWER 134 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The highly malignant phenotype of anaplastic thyroid carcinoma cell lines is recessive.

L2 ANSWER 135 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 75
TI Uncoupling salicylic acid-dependent cell death and defense-related responses from disease resistance in the Arabidopsis mutant *acd5*.

L2 ANSWER 136 OF 247 AGRICOLA DUPLICATE 76
TI The Arabidopsis **NPR1/NIM1** protein enhances the DNA binding activity of a subgroup of the TGA family of bZIP transcription factors.

L2 ANSWER 137 OF 247 AGRICOLA DUPLICATE 77
TI **NPR1** differentially interacts with members of the TGA/OBF family of transcription factors that bind an element of the PR-1 gene required for induction by salicylic acid.

L2 ANSWER 138 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Reactive oxygen, **NDR1** and **NPR1** in Arabidopsis disease resistance signaling.

L2 ANSWER 139 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 78
TI Dynamic expression of Broad-Complex isoforms mediates temporal control of

an ecdysteroid target gene at the onset of *Drosophila* metamorphosis.

- L2 ANSWER 140 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Engineering disease resistance in wheat by cloning defense genes.
- L2 ANSWER 141 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Altered behavior following RNA interference knockdown of a *C. elegans* G-protein coupled receptor by ingested double stranded RNA
- L2 ANSWER 142 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Altered forms of the **NIM1** gene conferring disease resistance in plants.
- L2 ANSWER 143 OF 247 AGRICOLA DUPLICATE 79
TI *Arabidopsis thaliana* PAD4 encodes a lipase-like gene that is important for salicylic acid signaling.
- L2 ANSWER 144 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 80
TI Interaction of **NPR1** with basic leucine zipper protein transcription factors that bind sequences required for salicylic acid induction of the PR-1 gene.
- L2 ANSWER 145 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 81
TI Hypertension associated with decreased testosterone levels in natriuretic peptide receptor A gene-knockout and gene-duplicated mutant mouse models.
- L2 ANSWER 146 OF 247 AGRICOLA DUPLICATE 82
TI The gain-of-function *Arabidopsis* *acd6* mutant reveals novel regulation and function of the salicylic acid signaling pathway in controlling cell death, defenses, and cell growth.
- L2 ANSWER 147 OF 247 AGRICOLA DUPLICATE 83
TI Inhibition of protoporphyrinogen oxidase expression in *Arabidopsis* causes a lesion-mimic phenotype that induces systemic acquired resistance.
- L2 ANSWER 148 OF 247 AGRICOLA DUPLICATE 84
TI Enhanced expression and activation of the alternative oxidase during infection of *Arabidopsis* with *Pseudomonas syringae* pv tomato.
- L2 ANSWER 149 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 85
TI Identification and cloning of a negative regulator of systemic acquired resistance, **SNI1**, through a screen for suppressors of **npr1-1**.
- L2 ANSWER 150 OF 247 AGRICOLA DUPLICATE 86
TI Harpin induces disease resistance in *Arabidopsis* through the systemic acquired resistance pathway mediated by salicylic acid and the **NIM1** gene.

=> d bib abs 142 123 118 112 103

- L2 ANSWER 142 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:279051 BIOSIS
DN PREV200000279051
TI Altered forms of the **NIM1** gene conferring disease resistance in plants.
AU Uknes, Scott Joseph (1); Hunt, Michelle Denise; Steiner, Henry-York; Ryals, John Andrew
CS (1) Cary, NC USA
ASSIGNER: Novartis AG
PI US 5986082 November 16, 1999
SO Official Gazette of the United States Patent and Trademark Office Patents.

(Nov. 16, 1999: Vol. 1228, No. 3, pp. No pagination. e-file.
ISSN: 0098-1133.

DT Patent
LA English
AB The **NIM1** gene product is a structural homologue of the mammalian signal transduction factor IkappaB subclass alpha. The present invention exploits this discovery to provide altered forms of **NIM1** that act as dominant-negative regulators of the systemic acquired resistance (SAR) signal transduction pathway. These altered forms of **NIM1** confer the opposite phenotype as the **nim1** mutant in plants transformed with the altered forms of **NIM1**; i.e., the transgenic plants exhibit constitutive SAR gene expression and a constitutive immunity (CIM) phenotype. The present invention further concerns DNA molecules encoding altered forms of the **NIM1** gene, expression vectors containing such DNA molecules, and plants and plant cells transformed therewith. The invention also concerns methods of activating SAR in plants and conferring to plants a CIM phenotype and broad spectrum disease resistance by transforming the plants with DNA molecules encoding altered forms of the **NIM1** gene product.

L2 ANSWER 123 OF 247 AGRICOLA
AN 2001:21343 AGRICOLA
DN IND22298171
TI Nuclear localization of **NPR1** is required for activation of PR gene expression.
AU Kinkema, M.; Fan, W.; Dong, X.
AV DNAL (QK725.P532)
SO The Plant cell, Dec 2000. Vol. 12, No. 12. p. 2339-2350
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651

NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English

L2 ANSWER 118 OF 247 CAPLUS COPYRIGHT 2003 ACS
AN 2000:335557 CAPLUS
DN 132:344136
TI Protein and cDNA sequences of corn, rice, and wheat **NPR1** genes, chimeric **NPR1** genes, and uses thereof in plant disease control
IN Famodu, Omolayo O.; Fang, Yiwen; Liu, Zhan-Bin; Miao, Guo-Hua; Odell, Joan T.
PA E.I. du Pont de Nemours and Company, USA
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PT	WO 2000028036	A2	20000518	WO 1999-US25953	19991104
	WO 2000028036	A3	20001109		
	W:	AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
	CA 2345351	AA	20000518	CA 1999-2345351	19991104
	EP 1124963	A2	20010822	EP 1999-971853	19991104
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			

US 6355462 B1 20020312 US 1999-433248 19991104
PRAI US 1998-107242P P 19981105
WO 1999-US25953 W 19991104

AB This invention provides protein and cDNA sequences of corn, rice and wheat **NPR1** proteins and genes, which have homol. to *Arabidopsis thaliana* **NPR1**. The invention also relates to the construction of a chimeric gene encoding all or a portion of the **NPR1** homolog, in sense or antisense orientation, wherein expression of the chimeric gene results in prodn. of altered levels of the **NPR1** in a transformed plant cell. The invention further relates to the use of the **NPR1** for inducing plant disease resistance.

L2 ANSWER 112 OF 247 CAPLUS COPYRIGHT 2003 ACS

AN 2000:824431 CAPLUS

DN 134:14027

TI Wheat and rice acquired resistance gene **npr1** and protein and transgenic plants with enhanced disease resistance

IN Bougri, Oleg V.; Rommens, Caius M. T.; Srivastava, Neelam; Swords, Kathleen M.

PA Monsanto Co., USA

SO PCT Int. Appl., 101 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	FIND	DATE	APPLICATION NO.	DATE
WO 2000070069	A1	20001123	WO 2000 US13307	20000512
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1171620	A1	20020116	EP 2000-930738	20000512
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000010530	A	20020423	BR 2000-10530	20000512
JP 2002543845	T2	20021224	JP 2000-618475	20000512
US 6506962	B1	20030114	US 2000-569804	20000512
PRAI US 1999-133965P	P	19990513		
WO 2000-US13307	W	20000512		

AB The invention describes the **npr1** genes of wheat and rice and their encoded proteins. A method of using the genes to make transgenic plants that are resistant to disease is also provided. Thus, the cDNAs for rice **npr1** and wheat **npr2** genes were cloned and sequenced. Transgenic rice expressing the rice **npr1** gene or the wheat **npr2** gene displayed enhanced resistance to *Magnaporthe grisea*.

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 103 OF 247 AGRICOLA

DUPLICATE 58

AN 2001:83320 AGRICOLA

DN IND23239381

TI Evidence for a disease-resistance pathway in rice similar to the **NPR1**-mediated signaling pathway in *Arabidopsis*.

AU Chern, M.S.; Fitzgerald, H.A.; Yadav, R.C.; Canlas, P.E.; Dong, X.; Ronald, P.C.

AV DNAL (QK710.P68)

SO The Plant journal : for cell and molecular biology, July 2001. Vol. 27, No. 2. p. 101 113

Publisher: Oxford : Blackwell Sciences Ltd.

ISSN: 0960-7412

NTE Includes references
CY England; United Kingdom
DT Article
FS Non-U.S. Imprint other than FAO
LA English
AB

The Arabidopsis **NPR1/NIM1** gene is a key regulator of systemic acquired resistance (SAR). Over-expression of **NPR1** leads to enhanced resistance in Arabidopsis. To investigate the role of **NPR1** in monocots, we over-expressed the Arabidopsis **NPR1** in rice and challenged the transgenic plants with *Xanthomonas oryzae* pv. *oryzae* (Xoo), the rice bacterial blight pathogen. The transgenic plants displayed enhanced resistance to Xoo. RNA blot hybridization indicates that enhanced resistance requires expression of **NPR1** mRNA above a threshold level in rice. To identify components mediating the resistance controlled by **NPR1**, we used **NPR1** as bait in a yeast two-hybrid screen. We isolated four cDNA clones encoding rice **NPR1** interactors (named rTGA2.1, rTGA2.2, rTGA2.3 and rLG2) belonging to the bZIP family. rTGA2.1, rTGA2.2 and rTGA2.3 share 75, 76 and 78% identity with Arabidopsis TGA2, respectively. In contrast, rLG2 shares highest identity (81%) to the maize liguleless (LG2) gene product, which is involved in establishing the leaf blade-sheath boundary. The interaction of **NPR1** with the rice bZIP proteins in yeast was impaired by the **npr1-1** and **npr1-2** mutations, but not by the **nim1-4** mutation. The **NPR1**-rTGA2.1 interaction was confirmed by an in vitro pull-down experiment. In gel mobility shift assays, rTGA2.1 binds to the rice RCH10 promoter and to a cis-element required sequence-specifically for salicylic acid responsiveness. This is the first demonstration that the Arabidopsis **NPR1** gene can enhance disease resistance in a monocot plant. These results also suggest that monocot and dicot plants share a conserved signal transduction pathway controlling **NPR1**-mediated resistance.

=> d ti 151-200

- L2 ANSWER 151 OF 247 AGRICOLA DUPLICATE 87
TI The Arabidopsis **ssil** mutation restores pathogenesis-related gene expression in **npr1** plants and renders defensin gene expression salicylic acid dependent
- L2 ANSWER 152 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 88
TI **Nim1**-related kinases coordinate cell cycle progression with the organization of the peripheral cytoskeleton in yeast.
- L2 ANSWER 153 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Development of disease resistant plants and novel fungicides
- L2 ANSWER 154 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 89
TI Interaction between the fission yeast **nim1/cdr1** protein kinase and a dynamin-related protein.
- L2 ANSWER 155 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 90
TI Interleukin-1alpha regulates G1 cell cycle progression and arrest in thyroid carcinoma cell lines **NIM1** and NPA.
- L2 ANSWER 156 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Synergistic use of microbicides and strongly expressed systemic acquired resistance genes in increasing plant resistance to pathogens
- L2 ANSWER 157 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Use of alleles of the **NIM1** gene of Arabidopsis to improve levels

of disease resistance in plants

- L2 ANSWER 158 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Acquired resistance **NPR1** genes from *Arabidopsis thaliana* and *Nicotiana glutinosa* and their use for genetic engineering
- L2 ANSWER 159 OF 247 AGRICOLA DUPLICATE 91
TI Separate jasmonate-dependent and salicylate-dependent defense-response pathways in *Arabidopsis* are essential for resistance to distinct microbial pathogens.
- L2 ANSWER 160 OF 247 AGRICOLA DUPLICATE 92
TI The TOR nutrient signalling pathway phosphorylates **NPR1** and inhibits turnover of the tryptophan permease.
- L2 ANSWER 161 OF 247 AGRICOLA DUPLICATE 93
TI Generation of broad-spectrum disease resistance by overexpression of an essential regulatory gene in systemic acquired resistance.
- L2 ANSWER 162 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 94
TI The protein kinase Cdr2, related to **Nim1**/Cdr1 mitotic inducer, regulates the onset of mitosis in fission yeast.
- L2 ANSWER 163 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 95
TI Natriuretic peptide receptor 1 expression influences blood pressures of mice in a dose-dependent manner.
- L2 ANSWER 164 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 96
TI The spermidine transport system is regulated by ligand inactivation, endocytosis, and by the Npr1p Ser/Thr protein kinase in *Saccharomyces cerevisiae*.
- L2 ANSWER 165 OF 247 AGRICOLA DUPLICATE 97
TI Impaired fungicide activity in plants blocked in disease resistance signal transduction.
- L2 ANSWER 166 OF 247 AGRICOLA DUPLICATE 98
TI A novel signalling pathway controlling induced systemic resistance in *Arabidopsis*.
- L2 ANSWER 167 OF 247 AGRICOLA DUPLICATE 99
TI The phytochrome response of the *Lemna gibba* **NPR1** gene is mediated primarily through changes in abscisic acid levels.
- L2 ANSWER 168 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 100
TI The MEP2 ammonium permease regulates pseudohyphal differentiation in *Saccharomyces cerevisiae*.
- L2 ANSWER 169 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A novel defence pathway in *Arabidopsis* induced by biocontrol bacteria.
- L2 ANSWER 170 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Natural variation in a neuropeptide Y receptor homolog modifies social behavior and food response in *C. elegans*
- L2 ANSWER 171 OF 247 AGRICOLA DUPLICATE 101
TI Uncoupling PR gene expression from **NPR1** and bacterial resistance: characterization of the dominant *Arabidopsis* cpr6-1 mutant.
- L2 ANSWER 172 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 102

- TI Isolation of new Arabidopsis mutants with enhanced disease susceptibility to *Pseudomonas syringae* by direct screening.
- L2 ANSWER 173 OF 247 AGRICOLA DUPLICATE 103
 TI Correlation of defense gene induction defects with powdery mildew susceptibility in Arabidopsis enhanced disease susceptibility mutants.
- L2 ANSWER 174 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 104
 TI Arabidopsis: A weed leading the field of plant-pathogen interactions.
- L2 ANSWER 175 OF 247 AGRICOLA DUPLICATE 105
 TI Requirement for the induced expression of a cell wall associated receptor kinase for survival during the pathogen response.
- L2 ANSWER 176 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI The genetic studies and molecular cloning of the Arabidopsis **NPR1** gene: an important regulatory component in systemic acquired resistance
- L2 ANSWER 177 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI The **NIM1** gene involved in disease resistance in plants through systemic acquired resistance and its uses
- L2 ANSWER 178 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 106
 TI Hypertension, cardiac hypertrophy, and sudden death in mice lacking natriuretic peptide receptor A.
- L2 ANSWER 179 OF 247 AGRICOLA DUPLICATE 107
 TI The cpr5 mutant of Arabidopsis expresses both **NPR1**-dependent and **NPR1**-independent resistance.
- L2 ANSWER 180 OF 247 AGRICOLA DUPLICATE 108
 TI Nif1, a novel mitotic inhibitor in *Schizosaccharomyces pombe*.
- L2 ANSWER 181 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 109
 TI A fission yeast homolog of CDC20/p55PC-DC/fizzy is required for recovery from DNA damage and genetically interacts with p34-cdc2.
- L2 ANSWER 182 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 110
 TI Markers of cell polarity during and after nitrogen starvation in *Schizosaccharomyces pombe*.
- L2 ANSWER 183 OF 247 CAPLUS COPYRIGHT 2003 ACS
 TI Genetic mapping of the C-type natriuretic peptide receptor (Npr2) gene to mouse chromosome 4
- L2 ANSWER 184 OF 247 AGRICOLA DUPLICATE 111
 TI The Arabidopsis **NIM1** protein shows homology to the mammalian transcription factor inhibitor IkappaB.
- L2 ANSWER 185 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 112
 TI Physical mapping of the human connexin 40 (GJA5), flavin-containing monooxygenase 5, and natriuretic peptide receptor A genes on 1q21.
- L2 ANSWER 186 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
 TI The Arabidopsis thaliana **NIM1** protein is homologous to the mammalian transcription factor inhibitor I kappa B.
- L2 ANSWER 187 OF 247 AGRICOLA DUPLICATE 113
 TI Relationships between protein isoforms and genetic functions demonstrate functional redundancy at the Broad-Complex during *Drosophila*

metamorphosis.

- L2 ANSWER 188 OF 247 AGRICOLA DUPLICATE 114
TI Role of the fission yeast **nim1** protein kinase in the cell cycle response to nutritional signals.
- L2 ANSWER 189 OF 247 AGRICOLA DUPLICATE 115
TI Nitrogen starvation of the rice blast fungus *Magnaporthe grisea* may act as an environmental cue for disease symptom expression.
- L2 ANSWER 190 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 116
TI Evidence for a mammalian **Nim1**-like kinase pathway acting at the G0-1/S transition.
- L2 ANSWER 191 OF 247 AGRICOLA DUPLICATE 117
TI Characterization of a salicylic acid-insensitive mutant (*sail1*) of *Arabidopsis thaliana*, identified in a selective screen utilizing the SA-inducible expression of the *tms2* gene.
- L2 ANSWER 192 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 118
TI The *Arabidopsis* **NPR1** gene that controls systemic acquired resistance encodes a novel protein containing ankyrin repeats.
- L2 ANSWER 193 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 119
TI Roles of **Wee1** and **Nim1** protein kinases in regulating the switch from mitotic division to sexual development in *Schizosaccharomyces pombe*.
- L2 ANSWER 194 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Genetic and molecular characterization of genes required for pathogenicity in the rice blast fungus, *Magnaporthe grisea* (nitrogen metabolism, acropetal, trans acting, spore patterning)
- L2 ANSWER 195 OF 247 CAPLUS COPYRIGHT 2003 ACS
TI Regulation of **nim1** protein kinase in the life cycle of the fission yeast *Schizosaccharomyces pombe*
- L2 ANSWER 196 OF 247 AGRICOLA DUPLICATE 120
TI Ozone-induced responses in *Arabidopsis thaliana*: the role of salicylic acid in the accumulation of defense-related transcripts and induced resistance.
- L2 ANSWER 197 OF 247 AGRICOLA DUPLICATE 121
TI Pathogen-induced systemic activation of a plant defensin gene in *Arabidopsis* follows a salicylic acid-independent pathway.
- L2 ANSWER 198 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 122
TI Spatial organization of the **Nim1**-**Wee1**-**Cdc2** mitotic control network in *Schizosaccharomyces pombe*.
- L2 ANSWER 199 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 123
TI A search for proteins that interact genetically with histone H3 and H4 amino termini uncovers novel regulators of the **Swi1** kinase in *Saccharomyces cerevisiae*.
- L2 ANSWER 200 OF 247 AGRICOLA DUPLICATE 124
TI Isolation of *Arabidopsis* mutants with enhanced disease susceptibility by direct screening.

L2 ANSWER 192 OF 247 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 118

AN 1997:87707 BIOSIS

DN PREV199799379420

TI The Arabidopsis **NPR1** gene that controls systemic acquired resistance encodes a novel protein containing ankyrin repeats.

AU Cao, Hui (1); Glazebrook, Jane; Clarke, Joseph D. (1); Volko, Sigrid; Dong, Xinnian (1)

CS (1) Dev. Cell Molecular Biol. Group, Dep. Botany, Duke Univ., Durham, NC 27708-1000 USA

SO Cell, (1997) Vol. 88, No. 1, pp. 57-63.

ISSN: 0092-8674.

DT Article

LA English

AB The Arabidopsis **NPR1** gene controls the onset of systemic acquired resistance (SAR), a plant immunity, to a broad spectrum of pathogens that is normally established after a primary exposure to avirulent pathogens. Mutants with defects in **NPR1** fail to respond to various SAR-inducing treatments, displaying little expression of pathogenesis-related (PR) genes and exhibiting increased susceptibility to infections. **NPR1** was cloned using a map-based approach and was found to encode a novel protein containing ankyrin repeats. The lesion in one **npr1** mutant allele disrupted the ankyrin consensus sequence, suggesting that these repeats are important for **NPR1** function. Furthermore, transformation of the cloned wild-type **NPR1** gene into **npr1** mutants not only complemented the mutations, restoring the responsiveness to SAR induction with respect to PR-gene expression and resistance to infections, but also rendered the transgenic plants more resistant to infection by *P. syringae* in the absence of SAR induction.

L2 ANSWER 177 OF 247 CAPLUS COPYRIGHT 2003 ACS

AN 1998:42499 CAPLUS

DN 128:113033

TI The **NIM1** gene involved in disease resistance in plants through systemic acquired resistance and its uses

IN Ryals, John Andrew; Delaney, Terrence Patrick; Friedrich, Leslie Bethards; Weymann, Kristianna; Johnson, Jay Earl; Lawton, Kay Ann; Ellis, Daniel Murray

PA Novartis A.-G., Switz.; Ryals, John Andrew; Delaney, Terrence Patrick; Friedrich, Leslie Bethards; Weymann, Kristianna; Johnson, Jay Earl

SO PCT Int. Appl., 149 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 9749822	A1	19971231	WO 1997-EP1218	19970310
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	PW:	GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, CA, CN, ML, MR, NE, SN, TD, TG			
	CA 2258576	AA	19971231	CA 1997-2258576	19970310
	AU 9720261	A1	19980114	AU 1997-20261	19970310
	AU 719639	B2	20000511		
	EP 923648	A1	19990623	EP 1997-908210	19970310
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	BR 9709925	A	19990810	BR 1997-9925	19970310

CN 1228813	A	19990915	CN 1997-195642	19970310
JP 20000512502	T2	20000926	JP 1998-502146	19970310
KP 2000022203	A	20000425	KP 1998-710622	19981221
US 2002152499	A1	20021017	US 2002-79035	20020219
PRAI US 1996-20272P	P	19960621		
US 1996-24883P	P	19960830		
US 1996-33177P	P	19961213		
US 1996-773559	A	19961227		
US 1997-35022P	P	19970110		
US 1996-34379P	P	19961227		
US 1997-34730P	P	19970110		
WO 1997-EP1218	W	19970310		
US 1997-880179	A1	19970620		
US 2000-577799	A1	20000524		

AB The invention concerns the location and characterization of an Arabidopsis gene (designated **NIM1**) that plays a key role in the systemic acquired resistance (SAR) pathway and, in connection with chem. and biol. inducers, enables induction of SAR gene expression and broad spectrum disease resistance to plants. The gene may be of use in increasing pathogen resistance in plants. Null alleles (**nim1**) of the **NIM1** gene cannot induce the SAR pathway, including genes for pathogenesis-related proteins. The gene was cloned using map-based cloning methods.

L2 ANSWER 176 OF 247 CAPLUS COPYRIGHT 2003 ACS

AN 1998:40618 CAPLUS

DN 128:71350

TI The genetic studies and molecular cloning of the Arabidopsis **NPR1** gene: an important regulatory component in systemic acquired resistance

AU Cao, Hui

CS Duke Univ., Durham, NC, USA

SO (1997) 140 pp. Avail.: UMI, Order No. DA9805294

From: Diss. Abstr. Int., B 1998, 58(8), 3988

DT Dissertation

LA English

AB Unavailable

L2 ANSWER 157 OF 247 CAPLUS COPYRIGHT 2003 ACS

AN 1998:406088 CAPLUS

DN 129:93054

TI Use of alleles of the **NIM1** gene of Arabidopsis to improve levels of disease resistance in plants

IN Ryals, John Andrew; Lawton, Kay Ann; Uknes, Scott Joseph; Steiner, Henry-York; Hunt, Michelle Denise; Friedrich, Leslie Bethards; et al.

PA Novartis A.-G., Switz.; Ryals, John Andrew; Lawton, Kay Ann; Uknes, Scott Joseph; Steiner, Henry-York

SO PCT Int. Appl., 206 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 8

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9826082	A1	19980618	WO 1997-EP7012	19971212
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BF, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LF, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	US 6091004	A	20000718	US 1997-880179	19970620
	FR 2757875	A1	19980703	FR 1997-15741	19971208
	IT 1298472	B1	20000110	IT 1997-MI2741	19971211

NL 1007779 A1 19980617 NL 1997-1007779 19971212
 NL 1007779 C2 19980722
 AU 9856631 A1 19980703 AU 1998-56631 19971212
 AU 727179 B2 20001207
 EP 944728 A1 19990929 EP 1997-952940 19971212
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, FI

US 5986082 A 19991116 US 1997-989478 19971212
 CN 1241215 A 20000112 CN 1997-180553 19971212
 BR 9714398 A 20000502 BR 1997-14398 19971212
 JP 2001505774 T2 20010508 JP 1998-526248 19971212
 US 2002152499 A1 20021017 US 2002-79035 20020219
 PRAI US 1996-33177P P 19961213
 US 1996-34379P P 19961227
 US 1996-34382P P 19961227
 US 1997 34730P P 19970110
 US 1997-35021P P 19970110
 US 1997-35022P P 19970110
 US 1997-880179 A 19970620
 US 1996-20272P P 19960621
 US 1996-24883P P 19960830
 WO 1997-EP7012 W 19971212
 US 2000-577799 A1 20000524

AB A key gene in the SAR (systemic acquired resistance) pathway of Arabidopsis thaliana, the **NIM1** (noninducible immunity 1) gene is cloned and characterized for use in increasing the strength of a broad spectrum response to plant disease. The **NIM1** gene product is a structural homolog of the mammalian signal transduction factor 1.kappa.B subclass .alpha.. Alleles of the gene that encode dominant-neg. regulators of the systemic acquired resistance (SAR) signal transduction pathway are described. These alleles confer a phenotype opposite to that of the **nim1** mutant, i.e. the transgenic plants exhibit constitutive SAR gene expression and a constitutive immunity (CIM) phenotype. The gene was mapped to a region of chromosome 1 between the ngall1 gene and the SSLP marker ATHGENEA. Cosmids covering this region were used to further map the gene and to clone a wild-type allele by complementation. Progeny of Arabidopsis plants transformed with the cloned gene showed increased resistance to fungal pathogens.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 158 OF 247 CAPLUS COPYRIGHT 2003 ACS
 AN 1998:126277 CAPLUS
 DN 128:201804
 TI Acquired resistance **NPR1** genes from Arabidopsis thaliana and Nicotiana glutinosa and their use for genetic engineering
 IN Ausubel, Frederick M.; Glazebrook, Jane; Dong, Xinnian; Cao, Hui
 PA General Hospital Corporation, USA; Duke University
 SO PCT Int. Appl., 128 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806748	A1	19980219	WO 1997-US13994	19970808
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9739128	A1	19980306	AU 1997-39128	19970808

AU 735665	B2	20010712	CN 1997-198570	19970808
CN 1232468	A	19991320	BR 1997-11130	19970808
BR 9711130	A	20000111	EP 1997-936465	19970808
EP 1019436	A1	20000719	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE	
JP 2002500503	T2	20020108	JP 1998-509902	19970808
US 2002138872	A1	20020926	US 1997-908884	19970808
US 2002073447	A1	20020613	US 2001-908323	20010717
PRAI US 1996-23851P	P	19960809		
US 1997-35166P	P	19970110		
US 1997-46769P	P	19970516		
US 1997-908884	A1	19970808		
WO 1997-US13994	W	19970808		
AB	<p>Genomic and cDNA sequences encoding plant acquired resistance proteins are provided from cruciferous (Arabidopsis thaliana) and solanaceous (Nicotiana glutinosa) plants. Npr mutants showed that the NPR1 gene of A. thaliana is active in controlling the defense response against a broad spectrum of pathogens, and the gene was cloned using a map-based positional cloning strategy. The NPR1 protein comprised 593 amino acid residues and contained ankyrin-repeat and G-protein coupled receptor motifs as well as nuclear localization signals. NPR1 mediates the expression of pathogenesis-related polypeptides. Expression of these polypeptides in transgenic plants are useful for providing enhanced defense mechanisms to combat plant diseases.</p>			

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FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
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